

I claim:

1. A method for sending keep-alive messages to by a node to a neighbor in a communication network, the method comprising:
 - 5 determining a reliability factor for communicating with a neighbor; and
 - determining a frequency for sending keep-alive messages to the neighbor based upon the reliability factor.
2. The method of claim 1, wherein determining the reliability factor for communicating with the neighbor comprises:
 - 10 determining a reliability for the neighbor; and
 - determining the reliability factor based upon the reliability for the neighbor.
3. The method of claim 1, wherein determining the reliability factor for communicating with the neighbor comprises:
 - 15 determining a reliability for a communication link to the neighbor; and
 - determining the reliability factor based upon the reliability for the communication link to the neighbor.
4. The method of claim 1, wherein determining the reliability factor for communicating with the neighbor comprises:
 - 20 determining a reliability for the neighbor;
 - determining a reliability for a communication link to the neighbor;
 - assigning a relative weight to each of the reliability for the neighbor and the reliability for the communication link to the neighbor;
 - 25 determining the reliability factor to be a weighted average of the reliability for the neighbor and the reliability for the communication link to the neighbor.
5. The method of claim 1, wherein determining the frequency for sending keep-alive messages to the neighbor based upon the reliability factor comprises:

setting the frequency for sending keep-alive messages to the neighbor in inverse proportion to the reliability factor.

6. The method of claim 1, further comprising:

5 updating the reliability factor; and
adjusting the frequency for sending keep-alive messages to the neighbor based upon the updated reliability factor.

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7. The method of claim 6, wherein adjusting the frequency for sending keep-alive messages to the neighbor comprises:

reducing the frequency for sending keep-alive messages to the neighbor, if the updated reliability factor represents a reliability improvement for communicating with the neighbor; and

increasing the frequency for sending keep-alive messages to the neighbor, if the updated reliability factor represents a reliability degradation for communicating with the neighbor.

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8. A device for sending keep-alive message to a neighbor in a communication network, the device comprising:
reliability determination logic operably coupled to determine a reliability factor for communicating with the neighbor; and
frequency determination logic responsive to the reliability determination logic and operably coupled to determine a frequency for sending keep-alive messages to the neighbor based upon the reliability factor.
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9. The device of claim 8, wherein the reliability determination logic is operably coupled to determine a reliability for the neighbor and determine the reliability factor based upon the reliability for the neighbor.
10. The device of claim 8, wherein the reliability determination logic is operably coupled to determine a reliability for a communication link to the neighbor and determine the reliability factor based upon the reliability for the communication link to the neighbor.
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11. The device of claim 8, wherein the reliability determination logic is operably coupled to determine a reliability for the neighbor, determine a reliability for a communication link to the neighbor, assign a relative weight to each of the reliability for the neighbor and the reliability for the communication link to the neighbor, and determine the reliability factor to be a weighted average of the reliability for the neighbor and the reliability for the communication link to the neighbor.
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12. The device of claim 8, wherein the frequency determination logic is operably coupled to set the frequency for sending keep-alive messages to the neighbor in inverse proportion to the reliability factor.
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13. The device of claim 8, wherein the reliability determination logic is operably coupled to update the reliability factor, and wherein the frequency determination logic is operably coupled to adjust the frequency for sending keep-alive messages to the neighbor
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based upon the updated reliability factor.

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14. The device of claim 13, wherein the frequency determination logic is operably coupled to reduce the frequency for sending keep-alive messages to the neighbor if the updated reliability factor represents a reliability improvement for communicating with the neighbor and increase the frequency for sending keep-alive messages to the neighbor if the updated reliability factor represents a reliability degradation for communicating with the neighbor.

15. A program product comprising a computer readable medium having embodied therein a computer program for sending keep-alive messages to a neighbor in a communication network, the computer program comprising:

5 reliability determination logic programmed to determine a reliability factor for communicating with the neighbor; and

frequency determination logic responsive to the reliability determination logic and programmed to determine a frequency for sending keep-alive messages to the neighbor based upon the reliability factor.

10 16. The program product of claim 15, wherein the reliability determination logic is programmed to determine a reliability for the neighbor and determine the reliability factor based upon the reliability for the neighbor.

15 17. The program product of claim 15, wherein the reliability determination logic is programmed to determine a reliability for a communication link to the neighbor and determine the reliability factor based upon the reliability for the communication link to the neighbor.

20 18. The program product of claim 15, wherein the reliability determination logic is programmed to determine a reliability for the neighbor, determine a reliability for a communication link to the neighbor, assign a relative weight to each of the reliability for the neighbor and the reliability for the communication link to the neighbor, and determine the reliability factor to be a weighted average of the reliability for the neighbor and the reliability for the communication link to the neighbor.

25 19. The program product of claim 15, wherein the frequency determination logic is programmed to set the frequency for sending keep-alive messages to the neighbor in inverse proportion to the reliability factor.

30 20. The program product of claim 15, wherein the reliability determination logic is

programmed to update the reliability factor, and wherein the frequency determination logic is programmed to adjust the frequency for sending keep-alive messages to the neighbor based upon the updated reliability factor.

- 5 21. The program product of claim 20, wherein the frequency determination logic is
 programmed to reduce the frequency for sending keep-alive messages to the neighbor if
 the updated reliability factor represents a reliability improvement for communicating with
 the neighbor and increase the frequency for sending keep-alive messages to the neighbor if
 the updated reliability factor represents a reliability degradation for communicating with
 the neighbor.

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22. A communication system comprising a plurality of interconnected devices including a node and a neighbor in communication over a communication link, wherein the node is operably coupled to send keep-alive messages to the neighbor, and wherein the node is operably coupled to determine a frequency for sending keep-alive messages to the neighbor based upon a reliability factor for communicating with the neighbor over the communication link.

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23. The communication system of claim 22, wherein the node is operably coupled to determine the reliability factor based upon a reliability for the neighbor and a reliability for the communication link.

24. The communication system of claim 22, wherein the node is operably coupled to set the frequency for sending keep-alive messages to the neighbor in inverse proportion to the reliability factor.